AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A light emitting device comprising at least one electroluminescent element (1) and a diffractive optical element (12) arranged to influence light emitted by the electroluminescent element (1), wherein diffractive optical features of the diffractive optical element (12) are designed according to an output light distribution of the at least one electroluminescent element(1), and wherein the electroluminescent element (1) is arranged in a housing (2) and/or substrate coupled to the diffractive optical element (1), and a design of the diffractive optical features of the diffractive optical element (12) also incorporates a shape and reflection characteristics of the underlying housing (2), with points of the housing receiving light from the source being assumed to act as secondary Lambertian point sources.

2. (Previously Presented) The light emitting device according to claim 1, wherein symmetry characteristics of the diffractive optical element (12) correspond to symmetry characteristics of the electroluminescent element (1), as well as to symmetry characteristics of desired emission characteristics.

3. (Previously Presented) The light emitting device according to claim 1, wherein the diffractive optical element (12) is disposed in an at least partially transparent layer (11) that covers a light emitting surface of the electroluminescent element (1).

4. (Previously Presented) The light emitting device according to claim 3, wherein the layer (11) does not extend over the light emitting surface of the electroluminescent element (1).

5. (Previously Presented) The light emitting device according to claim 1, comprising a housing and/or substrate (2) for accommodating the electroluminescent element (1) and current supply means for the electroluminescent element (1) , wherein the diffractive optical element (12) is coupled to the housing and/or substrate (2).

6. (Previously Presented) The light emitting device according to claim 5, wherein said diffractive optical element (12) is directly and irreversibly fixed to the housing and/or substrate (2).

7. (Previously Presented) The light emitting device according to claim 5, further comprising an LED and an LED chip as the electroluminescent element (1), the housing and/or substrate (2) and an at least partially transparent material (3) surrounding the electroluminescent element (1), wherein said diffractive optical element (12) is made up of diffractive optical structures (12) on a surface of an at least partially transparent layer (11) attached to said at least partially transparent material (3).

8. (Previously Presented) The light emitting device according to claim 5, further comprising an LED and an LED chip as the electroluminescent element (1), the housing and/or substrate (2) and an at least partially transparent material (3) surrounding the electroluminescent element (1), wherein said diffractive optical element is made up of diffractive optical structures (12) on a surface of said at least partially transparent material (3).

9. (Previously Presented) The light emitting device according to claim 7, wherein said at least partially transparent material (3) comprises light influencing additives.

10. (Previously Presented) The light emitting device according to claim 1, wherein said diffractive optical element (12) comprises a plurality of independent sections each having an individual optical function.

11. (Previously Presented) The light emitting device according to claim 1, wherein said electroluminescent element (1) comprises a light emitting surface wherein the light emitting surface is covered by an at least partially transparent material (3), the at least partially transparent material (3) defining a first surface, wherein an at least partially transparent layer sticks to said first surface and defines a second surface essentially parallel to said first surface, and wherein said diffractive optical element (12) is made up of diffractive optical structures provided in said second surface.

12. (Previously Presented) The light emitting device according to claim 1, wherein said diffractive optical structure (12) comprises features having characteristic depths and/or heights of between 0.5 micrometers and 200 micrometers.

13. (Previously Presented) A method for manufacturing a diffractive optical structure that is to be used in a light emitting device in conjunction with an electroluminescent element arranged in a housing (2) and/or substrate, the diffractive optical structure being arranged to influence light emitted by the electroluminescent element (1), comprising the steps of:

- modelling light emission of the electroluminescent element (1) as an array of point sources, each point source having an angular light distribution that is the same as the angular light distribution of the electroluminescent element as a whole, whereas intensity may be adapted to a local emission strength of the electroluminescent element;
- modelling light emission of secondary point sources corresponding to points where light leaving the electroluminescent element is reflected by said housing (2) and/or substrate before reaching the diffractive optical structure, and modelling the light emission of secondary point sources as being lambertian;
- designing, for the desired light beam shape, a beam shaping optic for each point source;
- combining beam shaping optics for all point sources, generating a total optical function; and
- generating a surface profile for the diffractive optical structure according to the total optical function.

14-16 (Cancelled)

17. (Previously Presented) The light emitting device according to claim 9, wherein said at least partially transparent material (3) comprises a fluorescent material.

18. (Previously Presented) The light emitting device according to claim 8, wherein said at least partially transparent material (3) comprises light influencing additives.

19. (Previously Presented) The light emitting device according to claim 18, wherein said at least partially transparent material (3) comprises a fluorescent material.

20. (New) An optical element comprising at least one of diffractive type or refractive type micro-optical structures on at least one of its surfaces, wherein said surface comprises a plurality of independent sections wherein at least two of said sections have micro-optical structures that are different from one another.

21. (New) An optical element according to claim 20, wherein the micro-optical structures of the micro-optical element are designed according to the position, size and shape of the one or more electroluminescent elements, and output light distribution of the one or more electroluminescent elements to be used in conjunction with the optical element.

22. (New) An optical element according to claim 20, wherein the different sections

comprise different micro-optical structures present in a single at least partially transparent layer.

23. (New) An optical element according to claim 20, wherein said micro-optical structure comprises features having characteristic profile dimensions of between 0.5 micrometers and 200 micrometers.

24. (New) An optical element according to claim 20, wherein the independent sections each have an individual optical function.

25. (New) A method for manufacturing an optical element comprising the steps of:

providing an at least partially transparent material with a surface, and

adding to said surface a structure serving as micro-optical element for shaping and/or collimating light, wherein said structure is shaped such that said micro-optical element comprises a plurality of independent sections wherein at least two of said sections have micro-optical structures that are different from one another.

26. (New) A method as claimed in claim 25, further comprising the step of embossing in said surface a micro-structure serving as said micro-optical element.

27. (New) A method as claimed in claim 25, further comprising manufacturing the different sections by manufacturing different micro-optical structures in a single at least partially transparent layer.

28. (New) A method for designing a micro-optical structure that is to be used in conjunction with an electroluminescent element, comprising the steps of:

modeling the light emission of the electroluminescent element as an array of point sources, each point source having the same angular light distribution as the electroluminescent element as a whole, whereas the intensity is optionally adapted to a local emission strength of the electroluminescent element;

optionally modeling light emission of secondary point sources corresponding to points where light leaving the electroluminescent element is reflected before reaching the micro-optical structure;

designing, for the desired light beam shape, a beam shaping optic for each point source;

combining the beam shaping optics for all point sources, generating a total optical function,

approximating the total optical function by breaking it into several parts; and

generating a surface profile for the micro-optical structure according to the total optical function wherein each part of the optical function is realized as an independent section of the micro-optical structure.